

ABSTRACT

A number of embodiments provide multi-Wavelength Laser Source (MWLS) designs based on Super Continuum (SC) generation using Highly Non-Linear optical Fiber (HNLF). Advantageously, in
5 some embodiments this technology only needs a single wavelength locking mechanism to tune and lock the whole set of channels to the ITU grid. Furthermore, in some embodiments, this laser system is able to provide wavelength channels in all the S, C and L bands. In this design, the optical signal provided by an initial
10 seed laser source goes through a wavelength channel multiplier stage based on HNLF and is expanded in the frequency domain to cover a wider wavelength range. The wavelength channel multiplier consists of a number of optical fibers including various combinations of HNLF, single mode fiber and dispersion shifted
15 fibers.